

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

1-18. (cancelled)

19. (new) A write driver for driving a write current through a write head, the write driver being coupled to the write head by an interconnect having an odd characteristic impedance, the write driver comprising:

    a first resistor coupled to a driving terminal for matching an output impedance of the write driver to the odd characteristic impedance of the interconnect;

    a buffer amplifier having an input, and an output coupled to the first resistor;

    a second resistor coupled between the input of the buffer amplifier and a reference potential, the second resistor being equal in value to the first resistor multiplied by a scaling factor; and

    a current mirror having an input for receiving an input current, a first current output coupled to the input of the buffer amplifier, the first current output being equal in value to the input current divided by the scale factor, and a second current output being coupled to the driving terminal.

20. (new) The write driver of claim 19 wherein the reference potential comprises ground.

21. (new) The write driver of claim 19 wherein the current mirror comprises a P-type current mirror.

22. (new) A write driver for driving a write current through a write head, the write driver being coupled to the write head by an interconnect having an odd characteristic impedance, the write driver comprising:

a first resistor coupled to a driving terminal for matching an output impedance of the write driver to the odd characteristic impedance of the interconnect;

a buffer amplifier having an input, and an output coupled to the first resistor;

a second resistor coupled between the input of the buffer amplifier and a reference potential, the second resistor being equal in value to the first resistor multiplied by a scaling factor;

a first current mirror having an input for receiving an input current, a first current output coupled to the input of the buffer amplifier, the first current output being equal in value to the input current divided by the scale factor, and a second current output being coupled to the driving terminal; and

a second current mirror having an input for receiving an input current, a first current output coupled to the input of the buffer amplifier, the first current output being equal in value to the input current divided by the scale factor, and a second current output being coupled to the driving terminal.

23. (new) The write driver of claim 22 wherein the reference potential comprises ground.

24. (new) The write driver of claim 22 wherein the first current mirror comprises a P-type current mirror.

25. (new) The write driver of claim 22 wherein the second current mirror comprises an N-type current mirror.

26. (new) A write driver for driving a write current through a write head, the write driver being coupled to the write head by an interconnect having an odd characteristic impedance, the write driver comprising:

a first resistor coupled to a first driving terminal for matching an output impedance of the write driver to the odd characteristic impedance of the interconnect;

a first buffer amplifier having an input, and an output coupled to the first resistor;

a second resistor coupled between the input of the first buffer amplifier and a reference potential, the second resistor being equal in value to the first resistor multiplied by a scaling factor;

a first current mirror having an input for receiving a first input current, a first current output coupled to the input of the first buffer amplifier, the first current output being equal in value to the first input current divided by the scale factor, and a second current output being coupled to the first driving terminal;

a second current mirror having an input for receiving a second input current, a first current output coupled to the input of the first buffer amplifier, the first current output being equal in value to the second input current divided by the scale factor, and a second current output being coupled to the driving terminal;

a third resistor coupled to a second driving terminal for matching the output impedance of the write driver to the odd characteristic impedance of the interconnect;

a second buffer amplifier having an input and an output coupled to the third resistor;

a fourth resistor coupled between the input of the second buffer amplifier and the reference potential, the fourth resistor being equal in value to the third resistor multiplied by the scaling factor;

a third current mirror having an input for receiving a third input current, a first current output coupled to the input of the second buffer amplifier, the first current output being equal in value to the third input current divided by the scale factor, and

a second current output being coupled to the second driving terminal; and

a fourth current mirror having an input for receiving a second input current, a first current output coupled to the input of the second buffer amplifier, the first current output being equal in value to the second input current divided by the scale factor, and a second current output being coupled to the second driving terminal.

27. (new) The write driver of claim 26 wherein the reference potential comprises ground.

28. (new) The write driver of claim 26 wherein the first current mirror comprises a P-type current mirror.
29. (new) The write driver of claim 26 wherein the second current mirror comprises an N-type current mirror.
30. (new) The write driver of claim 26 wherein the third current mirror comprises a P-type current mirror.
31. (new) The write driver of claim 26 wherein the fourth current mirror comprises an N-type current mirror.
32. (new) The write driver of claim 26 further comprising a first bias current coupled to the input of the first buffer amplifier.
33. (new) The write driver of claim 26 further comprising a second bias current coupled to the input of the first buffer amplifier.
34. (new) The write driver of claim 26 further comprising a third bias current coupled to the input of the second buffer amplifier.
35. (new) The write driver of claim 26 further comprising a fourth bias current coupled to the input of the second bias amplifier.
36. (new) A write driver for driving a write current through a write head, the write driver being coupled to the write head by an interconnect having an odd characteristic impedance, the write driver comprising:
- a first resistor coupled to a first driving terminal for matching an output impedance of the write driver to the odd characteristic impedance of the interconnect;
  - a first buffer amplifier having an input and an output coupled to the first resistor;
  - a second resistor coupled to the input of the first buffer amplifier and a first bias node, the second resistor being equal in value to the first resistor multiplied by a scaling factor;

a first current mirror having an input for receiving a first input current, a first current output coupled to the input of the first buffer amplifier, the first current output being equal in value to the first input current divided by the scale factor, and a second current output being coupled to the first driving terminal;

a second current mirror having an input for receiving a second input current, a first current output coupled to the input of the first buffer amplifier, the first current output being equal in value to the second input current divided by the scale factor, and a second current output being coupled to the driving terminal;

a third resistor coupled to a second driving terminal for matching the output impedance of the write driver to the odd characteristic impedance of the interconnect;

a second buffer amplifier having an input and an output coupled to the third resistor;

a fourth resistor coupled between the input of the second buffer amplifier and a second bias node, the fourth resistor being equal in value to the third resistor multiplied by the scaling factor;

a third current mirror having an input for receiving a third input current, a first current output coupled to the input of the second buffer amplifier, the first current output being equal in value to the third input current divided by the scale factor, and a second current output being coupled to the second driving terminal;

a fourth current mirror having an input for receiving a second input current, a first current output coupled to the input of the second buffer amplifier, the first current output being equal in value to the second input current divided by the scale factor, and a second current output being coupled to the second driving terminal; and

a source of DC bias voltage coupled between the first and second bias nodes.

37. (new) The write driver of claim 36 wherein the first current mirror comprises a P-type current mirror.

38. (new) The write driver of claim 36 wherein the second current mirror comprises an N-type current mirror.
39. (new) The write driver of claim 36 wherein the third current mirror comprises a P-type current mirror.
40. (new) The write driver of claim 36 wherein the fourth current mirror comprises an N-type current mirror.